

FOR THE RECORD

**Combined Annual Meeting of the DOE Topical Committees on Metrology
and Accreditation**

And

DOE Standards Laboratory Managers Meeting

New Brunswick Laboratory, Argonne, IL

March 12 – 14, 2002

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List of Attendees

Speakers/Topics

Reports by Represented Labs

- Honeywell FM&T Metrology
- Los Alamos National Labs (not yet received)
- New Brunswick Laboratory
- Oak Ridge National Laboratory
- Sandia National Laboratories (not yet received)
- Pantex
- Oak Ridge – Y12
- Pacific Northwest National Laboratory
- Idaho Engineering and Environmental Laboratory
- Westinghouse Savannah River
- Bechtel Nevada (not yet received)
- Sandia Livermore

Action items (Revised to include those generated at the March 02 meeting.)

Election Information/Next Meeting



AGENDA
2002 ANNUAL MEETINGS
DOE Topical Committees on Metrology & Accreditation
March 12 – 13th — New Brunswick Laboratory, Argonne, IL



Mar 12	AGENDA ITEM	TIME
A.M.	Sign-in	7:45 – 8:00
	<ul style="list-style-type: none"> Introduction of Attendees — Don Ragland, Secretariat Intro to facilities, lunches, etc. — Margaret Legel, NBL Review Agenda: — Ragland 	8:00 – 8:15
	Review 2001 Action Items (Responsible Individuals)	8:15 – 9:15
	BREAK	9:15 – 9:45
	Welcome to NBL: Dr. Margaret E.M. Tolbert , Director, New Brunswick Laboratory	9:45 – 10:00
	1st Speaker: Ken Harrison (PNNL) — "Recommended practices for obtaining a qualified calibration services laboratory" — (Group Discussion)	10:00 – 10:30
	CONTINUOUS IMPROVEMENT/LESSONS LEARNED: (Group discussion) Each member will share information that could benefit other calibration laboratories. What works and what doesn't work at his/her facility.	10:30 – 12:00
	LUNCH	12:00 – 1:30
	2nd Speaker: Dr. Stephan Richter , NBL — "Finnigan TRITON Mass Spectrometer Qualification for Measurements" — (Group Discussion)	1:30 – 1:50
	3rd Speaker: Dr. Carroll Brickenkamp (NIST/NVLAP) — "Status of Implementation of ISO 17025" — (Group Discussion reserved until after Break)	1:50 – 2:15
P.M.	BREAK	2:15 – 3:00
	GROUP DISCUSSION OF 17025 ISSUES This will be a time for members to share their thoughts about this new standard and what they are planning to do about it.	3:00 – 4:15
	4th Speaker: Dr. Steven A. Goldberg (New Brunswick Laboratory) — "Measurement Controls for Quality Assurance: Application for Accreditation of Chemistry Laboratories" — (Group Discussion)	4:15 – 4:45
	First Day Wrap-up / Review Action Items	4:45 - 5:00



AGENDA



2002 ANNUAL MEETINGS DOE Topical Committees on Metrology & Accreditation March 12 – 13th — New Brunswick Laboratory, Argonne, IL

Mar 13	AGENDA ITEM	TIME
A.M.	5th Speaker: Raymond Kotowski (Program Manager, NASA – Kennedy Space Center) — "NASA Metrology Program Update" —	8:00 – 8:20
	6th Speaker: Don Heirman (National Cooperation of Laboratory Accreditation) — "NACLA Status Report" — (Group Discussion)	8:20 – 8:50
P.M.	REPORTS FROM REPRESENTED LABORATORIES: "Items of Interest; significant events/developments; FYI" Each member will update the group regarding changes in his/her organization since the last meeting; e.g. new capabilities, budget, and staffing issues. This activity is done in a round-table setting and it typically produces open discussions among the members and often generates Action Items or topics for the Round-Table discussion section of the agenda.	8:50 – 10:00
	BREAK	10:00 – 10:30
	Round Table General discussion of current topics of interest to the group. Following have been suggested: <ul style="list-style-type: none"> • Uncertainty Analysis • Training • Automation • Calibration procedures or methods • Quality methods • Sharing of resources • Web Page 	10:30 – 12:00
	LUNCH	12:00 – 1:30
	Joint Business Meeting of the DOE Accreditation & Metrology Committees: <ul style="list-style-type: none"> • Review Action Items from this meeting • Steering Committee Elections • ID next three meeting locations • Meeting Evaluation • Wrap-up 	1:30 – 3:00
	TOUR of NBL (Margaret Legel, NBL)	3:00 – 5:00



AGENDA

ANNUAL MEETING OF THE STANDARDS LABORATORY MANAGERS FOR THE DOE NUCLEAR WEAPONS COMPLEX NBL, ARGONNE, IL MARCH 14, 2002

Mar 14	AGENDA ITEM	TIME
A.M. only	Report of PSL Technical Surveys of CSLs: Larry Azevedo, Sandia "Update of PSL survey activities"	8:00 – 8:30
	CCL/DCS Database Demonstration: Mary Woodruff, Sandia "Demonstration of the CCL/DCS Database available for use by all DOE Labs."	8:30 – 8:50
	SNL Corrective Action Request Database Demonstration: Mary Woodruff, Sandia "Demonstration of Sandia's Corrective Action database."	8:50 – 9:10
	BREAK	9:10 – 9:30
	D&P Manual Changes: Larry Azevedo/Richard Pettit, Sandia "Discussion of D&P Manual changes submitted to DOE."	9:30 – 10:00
	ISO 17025 Requirements: Larry Azevedo/Richard Pettit, Sandia "Discussion of the affect of the implementation of ISO 17025 on the NWC Labs." <ul style="list-style-type: none"> • Uncertainty Analysis replaces 4:1 ratio • PSL Survey Process • Site Implementation Plan • Calibration Interval and other Z-540-1 Issues • Other 	10:00 – 11:15
	BREAK	11:15 – 11:30
	Meeting Format Review: Don Ragland, Sandia "The members will have an opportunity to express their thoughts about the format of the meeting and how the structure might be improved."	11:30– 11:45
	Wrap Up: Don Ragland, Sandia "The Standards Laboratory Managers' Meeting Action Item list will be reviewed to assure that each item clearly states the needed action, who is responsible for the action and when the action is due."	11:45 – 12:00



**DOE Combined Meetings
March 12 – 14, 2002**



**New Brunswick Laboratory, Argonne, IL
List of Attendees**

	<i>Email Address</i>	<i>Attendee Name</i>	<i>Attendee Organization</i>
1.	wja@inel.gov	Allred, Jim	Idaho National Engineering and Environmental Laboratory
2.	ljazeve@sandia.gov	Azevedo, Larry	Sandia National Laboratories / Albuquerque
3.	fmbacon@sandia.gov	Bacon, Frank	Sandia National Laboratories / Albuquerque
4.	Carroll.brickenkamp@nist.gov	Brickenkamp, Carroll	National Institute of Standards and Technology / NVLAP
5.	james.burkhardt@nnsa.doe.gov	Burkhardt, Jim	Department of Energy / NNSA
6.	rburton@kcp.com	Burton, Roger	Honeywell FM&T / Kansas City Plant
7.	gechert@DOEAL.gov	Echert, Gary	Department of Energy / NNSA
8.	efflerrpj@ornl.gov	Effler, Robert	Oak Ridge National Laboratory
9.	alg@lanl.gov	Gauler, Allen	Los Alamos National Laboratory
10.	zyx@y12.doe.gov	Harris, Jerry	Y12 National Security Complex
11.	Ke.Harrison@pnl.gov	Harrison, Kenneth	Pacific Northwest National Laboratory
12.	d.heirman@worldnet.att.net	Heirman, Donald	National Cooperation for Laboratory Accreditation
13.	mjhicks@sandia.gov	Hicks, Mary Jane	Sandia National Laboratories / Albuquerque
14.	wking@sandia.gov	King, Larry	Sandia National Laboratories / Albuquerque
15.	Raymond.kotowski-1@ksc.nasa.gov	Kotowski, Raymond	NASA / John F. Kennedy Space Center



**DOE Combined Meetings
March 12 – 14, 2002**



	<i>Email Address</i>	<i>Attendee Name</i>	<i>Attendee Organization</i>
16.	Margaret.legel@ch.doe.gov	Legel, Margaret	Department of Energy / New Brunswick Laboratory
17.	mckeethanwt@ornl.gov	McKeethan, William	Oak Ridge Metrology
18.	rbpetti@sandia.gov	Pettit, Richard	Sandia National Laboratories / Albuquerque
19.	pilkey@sandia.gov	Pilkey, Bob	Sandia National Laboratories / Livermore
20.	Edward.polz@srs.gov	Polz, Ed	Westinghouse Savannah River Company
21.	donragland@earthlink.net	Ragland, Don	Sandia National Laboratories / Albuquerque
22.	Barry.sachs@pnl.gov	Sachs, Barry	Pacific Northwest National Laboratory
23.		Thurman Hill, Jackie	Y12 National Security Complex
24.	tunleyce@nv.doe.gov	Tunley, Chris	Bechtel Nevada
25.	dwilhelm@pantex.com	Wilhelm, Danny	Pantex / Amarillo
26.	wrightwe@ornl.gov	Wright, Bill	Oak Ridge National Laboratory
27.	mjwoodr@sandia.gov	Woodruff, Mary	Sandia National Laboratories / Albuquerque



Annual DOE Topical Committees on Metrology and Accreditation

March 12 – 13, 2002



List of Speakers

<i>Speaker Name</i>	<i>Facility</i>	<i>Subject</i>
Ken Harrison	PNNL	<i>Recommended practices for obtaining a qualified calibration services laboratory</i>
Dr. Stephan Richter	New Brunswick Laboratory	<i>Finnigan TRITON Mass Spectrometer Qualification for Measurements</i>
Dr. Carroll Brickenkamp	National Voluntary Laboratory Accreditation Program	<i>Status of Implementation of ISO 17025</i>
Dr. Steven Goldberg	New Brunswick Laboratory	<i>Measurement Controls for Quality Assurance: Application for Accreditation of Chemistry Laboratories.</i>
Raymond Kotowski	NASA – Kennedy Space Center	<i>NASA Metrology Program Update</i>
Don Heirman	National Cooperation for Laboratory Accreditation	<i>NACLA Status Report</i>

2002 Honeywell FM&T Metrology Standards Lab Manager's Meeting

New Capabilities and Development Projects

- Implementation of six new balances in mass lab
- Developing High Pressure Calibration System - Nitrogen gas
- Obtained new CMM in plant for microsystems work
 - Air bearing failure shortly after installation
- Building new CMM lab in Tool and Gage Inspection
- Procuring Temperature Bridge
- Procuring Automated Potentiometer System
- Procuring Capacitance Bridge and Standards
- Procuring Cordax CMM replacement for Tool and Gage Inspection

2002 Honeywell FM&T Metrology Standards Lab Manager's Meeting

Facilities

- Replacement of HVAC systems for Dimensional Lab
 - Scheduled for completion in about four months
 - Replaces original HVAC systems installed in 1960's

Budget

- Expense budget flat
- Possible shortfall of travel funds
- Non Nuclear Readiness Campaign Funding
 - Created task to upgrade Metrology and Tool and Gage Capabilities
 - Used to fund new High Pressure Calibration System

2002 Honeywell FM&T Metrology Standards Lab Manager's Meeting

Personnel Issues

- 50% of Metrology Engineers are retirement eligible
- Hired two new engineers in 2001
- Planning on a summer intern for 2002
- New Electronic Business Unit Director
- Retirement of Engineering Manager - replacement not yet named
- Transfer of Metrology Services Manager, new manager in place

2002 Honeywell FM&T Metrology Standards Lab Manager's Meeting

Other Issues

- Failed merger with General Electric
- ISO 17025 compliance
- Last year - PSL audit, QAS 1.0 survey, two NVLAP on-site assessments
- Established Umbrella Work for Others Agreement
- Full implementation of Calibration Management System (CMS)

6th Annual Metrology and Accreditation Meeting, March 2002

New Brunswick Laboratory (NBL) Reporting: Margaret Legel

New quality management software purchased in October 2000 is being implemented to meet ISO 17025 criteria, particularly in the areas of document control, corrective/preventive actions, audits and management reviews, equipment control, and personnel training. Although NBL has very different measurement capabilities, uranium and plutonium chemistry, instead of physical metrology, these criteria in ISO 17025 need addressed by all of us to become accredited laboratories.

During the past year, full implementation of four of the software's six modules was accomplished: (1) Document Control; (2) Personnel/Training; (3) Action (Fault) Log ; and (4) Audits & Management Reviews. The two remaining modules are (5) Equipment Control and (6) Customer Care are not up and running at full speed yet.

Lessons-learned during our quality management software installation:

- Computer-assisted document control is a wonderful tool.
- There is always room for more Plans, Procedures, and Instructions.
- Need for actions documented in a database allows for good reminders.
- Actions documented in a database don't get done any quicker.
- Formal management reviews on a monthly basis have kept management informed on both small and large quality problems. Management actions have been successful in focusing on priorities.
- Audits are better organized and can be streamlined with use of "audit questions."
- Staff training on another computer software package is painful.
- Sharing knowledge can reap lots of benefits. The software is slowly moving from "my system" to "our system."

It's been worth it to document and streamline all types of quality management data to assist us in our journey to continuous improvement. We're still moving towards seeking accreditation in our U and Pu chemical methods in not-too-distant future!

For additional information or to exchange ideas and lessons-learned, contact Margaret A. Legel, QA Officer.

Items of Interest/Significant Events/Development/FYI Report from ORNL (Oak Ridge National Laboratory) Metrology

Change in Organizations – If things hadn't changed radically in the organization of ORNL in 10/01/02, this report would mostly have been the same old dreary, whining, "I get no respect and even less funding" lament that I usually have. As of October 1, 2001, however, we became a part of the ORNL Quality Services Division and are now managed by an organization that, at least, understands what Metrology is all about. We have "champions" all the way to the ALD level now.

Among the first results of this move was that I was invited to formulate ORNL's new SBMS (Standards Based Management System) Calibration Subject Area. I will confess that, to a great extent, I "ripped off" PNNL's and modified it to fit ORNL's infrastructure. If you wonder why I picked PNNL's, you're just not familiar with Battelle politics. Anyway, the SA is ready to be launched. I was asked to evaluate the end product and I gave it a 6.5 on a scale of 10. "0" being where we are now and "10" being where we ought to be. (When I made that statement in staff meeting, I was asked if I was "gunning" for the French slot on the Olympic figure skating judging panel.)

New Funding – The first action item that I was given as a member of this committee (DOE Metrology) was to write a "white paper" addressing charge back vs. base-funding schemes for Metrology Programs at DOE Laboratories. It was presented for vote and accepted by the committee at our meeting at the Nevada test site. Unfortunately, my own management didn't "see it" that way. My new management does. I now have a base-funding line for maintaining the program, and we charge-back for specific services. This is the scheme that my paper suggested.

New Equipment and Upgrades – Among the results of this new funding arrangement is that I have initiated an effort to upgrade our inventory of standards and equipment.

- We've bought a Fluke 5520A
- Had our Ruska 7215 upgraded with the Barometric Option.
- Ordered a major upgrade/overhaul and adding an "Auto-Float" Controller to one of our Dead Weight Testers. (Bill can give you the details.)
- Bill's procured a laser interferometer and is working on interfacing it to our Schwien manometer to get it "up and running".
- We're getting new DP cells for our wind tunnel and air flow stand.

- We're totally reconfiguring the rest of our airflow stand system (New MMI using LabView *etc.*)
- We've "resurrected" an old environmental chamber (been using the Greenspan method) to calibrate %rH instruments.
- We're contemplating a DWT that will go down to $<1''$ H₂O.

New Software Effort – Our current work control software package, which includes the recall module, is only slightly newer than cuneiform tablets. (It is built on DEC 1032, an old terminal-based platform.) I am determined to remedy that circumstance, but am running into a few political problems. There are people "rending their raiment and putting ashes on their heads", and I am contemplating getting a remote starter for my pickup truck.

New Lab – Since I assumed this position in 1997, our major need, however, has always been a better facility. Last year we moved from a large, crappy facility to a small, crappy facility. My new management has instructed the Facilities and Operations folks to provide me with a proper Lab, with environmental controls per NCSL RP 7 and 14.

I've been in negotiations with Western Environmental, who did the environmental controls for Y-12's Dimensional Lab, and asked them to work with our local folks to figure out how to modify an existing building to accommodate us.

Move toward 17025 Compliance/Accreditation – All this attention has come at a price in stress for me, of course. I've been instructed to bring us to a level of compliance with 17025 that will enable us to become accredited sometime in the near future. My new management is very interested in our doing WFO, and I've told them that accreditation is a *sine qua non*. I had Bill to go and observe while Y-12 was audited for 17025 compliance by the NVLAP folks. His report says that I have a great deal of work to do. It's been very difficult. There is a lot of "cultural inertia" at ORNL; but, so far, it's been a "labor of love."

Interesting Projects – In the midst of this chaos, we have had a little bit of "fun" with some special projects:

- We provided the performance figures for a prototype Wind tunnel controller for the Air Force.
- We helped to test a method to calibrate a hydrazine monitor for the Air Force.
- Using our Cox flow calibrator, we developed a way to characterize a flow measuring technique for a large drainpipe at the High Flux Isotope Reactor.

BWXT Pantex Laboratory

Reporting: Danny Wilhelm

Budget:

- Personnel - Numbers holding steady at 43 FTEs
- Supplies - Under \$25K - holding steady
- Cap. Eq. – Have been able to fund several items (CMMs and Low Humidity Generators using programmatic funding)

Personnel/Staffing Issues

- Mechanical Types still difficult to find
- Currently have 3 openings; 1 tech, 2 Engineer/Scientist
- Currently looking at realignment of organizational structure

New Equipment/Capabilities:

- 2 Sheffield Endeavor CMMs
- 2 Thunder Scientific Low Humidity Generators
- Fluke/Wavetek Model 9500 Scope Calibrator
- DH Humidity Standard
- Converting management software from Labmate 3.5 to Visual Labmate
- Automated environmental monitoring of Labs using Arbiter Systems equipment

Facilities

- Two projects currently funded to upgrade facility environmental controls - One of these projects will also provide major facility upgrades to a satellite lab

Issues/Concerns:

- Number of Low Humidity calibration requirements (Phoenix Carts - 70C range)
- Classified tooling handling requirements - Funding needed for vault-type rooms

LAB MANAGER'S REPORT
OAK RIDGE METROLOGY
BWXT Y-12, L.L.C.

Bill McKeethan
Phone: 865-574-2707
MCKEETHANWT@Y12.DOE.GOV

Increased demand for calibrations both internal and Work for Others necessitated supplemental staffing for ORMC. Programs related to DP along with restart of operational areas have increased workloads by 15 to 20 percent. Three additional metrologists have been authorized to supplement current staff levels with the additional forecasted demand in FY04 and FY05 of ten additional metrologists and support staff.

Budgets for FY02 are below recommended levels. Increased age of calibration equipment and maintenance cost to maintain current capabilities will remain high until replacement equipment is secured. In addition, training both technical and compliance is increasing.

ORMC has been selected to participate in a renewed co-op program. Two co-op students have been selected from several applications and will rotate their time in ORMC and class work.

ORMC has hired a permanent procedure specialist. A subcontractor has held this position for the past 2-½ years.

ORMC has been accredited by NVLAP with one additional dimensional discipline. The requirement by NVLAP to come into compliance with ISO 17025 has been completed and sent for approval.

The new wind tunnel was used for the first time in the calibration of air velocity meters. The tunnel is performing well in the low-velocity region (75-500 feet/min) using the ultrasonic velocity meter standard. The first device to be calibrated in the wind tunnel was a vane anemometer used in certifying the hoods in several work areas. Previously, anemometers had to be sent to an outside vendor for calibration. Recently, the outside vendor's quality assurance program audit expired and the vendor expressed no interest in renewing the certification leaving Y-12 with no reasonable source for calibration of air velocity meters.

The Automated Leak Calibration System (ALCS) was used, in conjunction with existing leak calibration stands, to calibrate a helium leak in the range of 10E-8 cc/sec. This marks the first time that a leak in this range has been certified at Y-12. Previously, leaks in this range were sent to Sandia for certification. The first leak certified using the ACLS was the most difficult to certify due to its construction which allowed a large amount of air in-leakage. The ACLS is capable of discriminating between gases and determining the leak rate of a specific gas in the presence of leaks of other gases. While the ACLS is not fully certified itself, it is capable of providing an indication of the ratio of the gases. This ratio was used in conjunction with the total flow rate determined by existing stands to determine the helium leak rate of the standard leak. The value obtained using this method very closely matched the results of previous calibrations using NIST standards for the same standard leak and provides additional assurance of the validity of the ACLS data. Full certification of the ACLS is expected in the next two months.

PNNL Lab Report

The Battelle Quality Directorate has been made part of the ES&H organization to reflect the current organizational philosophy of DOE

Battelle has expanded its use of the Purchasing Card to include a third calibration vendor for scales and balances (expanded from 2 vendors)

Union concerns exist with the obtaining of "crafts turndowns" and reduction of work scope from the Union due to the use of our third Purchasing Card calibration vendor.

An assessment is currently in-process to determine if the users of the Purchasing Card are complying with the requirement for crafts turndown and avoiding calibrations from vendors other than the three current calibration Purchasing Card vendors.

PAAA reportable (NTS item) due to the lack of timely responses and systems failures with regard out-of-tolerance notices.

PNNL has purchased a new super computer for the Environmental Molecular Sciences Laboratory (EMSL). This computer will be the third fastest in the world.

A new 900 MHz nuclear magnetic resonance magnet has been installed in the EMSL. The magnet is the largest of its kind in the world and will complete the suite of research instruments for EMSL. It represents a significant technological advancement in NMR research.

LAB REPORT FOR THE INEEL STANDARDS AND CALIBRATION LABORATORIES
Bill Allred

March 1, 2002

In 2001, the Idaho National Engineering and Environmental Laboratory (INEEL) saw many changes. Bechtel, BWXT Idaho for the DOE ID office, presently operates the INEEL. Major organizational changes were put in place that affected the lab due to major FTE and funding reductions. The INEEL offered an Early Retirement Incentive, which reduced the work force by 441 people, which included Harry Moody. He has truly been missed. An Involuntary Separation package took approximately another 150 with further funding cuts as well as more lay offs possible in the later part of 2002.

The INEEL Standards and Calibration Laboratories (S&CL) continues to operate with continued NVLAP accreditation in quality and seven parameters including DC Voltage and DC Resistance, Time and Frequency, Mass, Pressure, Length and Force. A team of NVLAP auditors will be here in late May to reevaluate the lab. On a positive note, we have just completed setup on our Primary Josephson Voltage Standard System. Clark Hamilton with Vmetrix was on site for setup and initial startup of the system. Preliminary runs show very favorable results. We are also close to implementing a site wide web based calibration recall system. This system will enable the entire site to link together for consistent tracking and accounting purposes as well as stable and consistence calibration and maintenance activities.

SAVANNAH RIVER STANDARDS LABORATORY
ED POLZ
PRINCIPAL ENGINEER/ACTING MANAGER

PERSONNEL

Staffing has been reduced by one with the retirement of Roy Anderson in September

BUDGET

Our normal operating budget has been reduced twice this year in across the board cuts. The head count budget has also been reduced. It is unclear as to what will occur if they decide to actually make the manager's position permanent again. Capital equipment budget remains close to non-existent.

FACILITY

We have been experiencing 2-3 man months of lost productivity per year due to HVAC failures. We are making good progress, money designated, in a complete overhaul of the system.

ELECTRICAL LAB

Voltage

DataProof scanners refurbished

New bank of Fluke Zener standards

Participating in the PSL J-volt program, initial problems with the effort most likely from GPS frequency reference. A new Fluke 910R has now been procured and is in operation.

Using the DataProof Voltref program for MAP of cells

Resistance

Added MI6010B and Scanner

Hart Oil Bath

Had temperature protection fabricated per PSL design and suggestion

MI air bath for resistor in air measurements

Hart Black Stack Temperature monitoring

Capacitance

Added Andeen Hagerling bridge

GenRad system refurbished

MetCal Workstations (Working towards limited ability to calibrate waveform generators and counters)

2 Fluke 5700s upgraded to 5720 specs

New

Fluke 550
Spectrum analyzer
Distortion analyzer
Phase meter
Power meter
Frequency counters

DIMENSIONAL LAB

Mitutoyo 707 CMM
Hommel Surface Roughness Measurement system
Interface and computer upgrades to 2 Mahr Universal Measurement systems,
additional upgrades on order
Upgrade to Federal gage block system on order

TEMPERATURE LAB

3 Hart calibrators models 9112, 9210 and 9260
3 Hart Tweener Thermometers
Hart Black Stack system
Hart Superthermometer

MASS LABORATORY

Anton Parr DMA 45 Density Meter to calibrate hydrometers and battery acid testing equipment, with 4 decimal place sensitivity and smaller uncertainties than the hydrometers they have replaced.

PR2004 Mettler Toledo mass comparator with 0.1 mg sensitivity and 2300 g capacity which replaced a PM 2000 balance with a 2 kg capacity and 1 mg sensitivity

UMT5 Mettler Toledo Mass comparator with 0.0001 mg sensitivity and 5.1 g capacity which replaced a Mettler M3 mass comparator

New ASTM Class 0.1 mg to 10 kg single piece mass set, calibrated at Rice Lake, SC State Lab, PSL and NIST for mass and at the Mn State Laboratory for density to replace an old two piece weight set with assumed densities.

Purchased Mettler Toledo class E2 single piece mass standards with Swiss Calibration Certificates and implemented their use in a JTIPMAP QA program for estimating mass calibration uncertainty estimates.

Are currently developing and automated mass calibration system interfaced to Visala barometric pressure, humidity and temperature gauges to collect the environmental readings for air buoyancy corrections. A LakeShore Model 450 Gaussmeter has been purchased for testing suspected magnetized weights.

PRESSURE LABORATORY

Model 7215xi High Speed Digital Pressure Controller high accuracy, able to achieve 0.005% of reading from 5% to 100% of the full scale pressure range. Two units have been purchased, 50 psi and 1000 psi which have high speed controllers which will control to the set-point in less than 15 seconds with no overshoot. These instruments will allow us to calibrate gauges with uncertainties comparable to our Model 2465 Autofloat Gas Piston Gauge.

A second Model 2465 Autofloat Gas Piston Gauge with the WinPrompt software was purchased to replace 30 year old tilting PG for cross floating customer's pistons.

A second Pressurements V1600/3D low pressure differential piston gauge was purchased to meet the increased number of low pressure (0.25 to 50 " H₂O) transducers being purchased by SRS organizations.

A DH Instruments PG 7302 hydraulic piston gauge system with a 72,500 psi range and <0.0075% of reading uncertainties has been purchased and installed to expand our piston gauge calibration capability to that range. This replaces an old Ruska hydraulic system with a 40,000 psi range having 0.02% of reading uncertainties.

Sandia National Laboratories, California
Reporting: Bob Pilkey

Sandia National Laboratories California (SNL/CA) began phasing out its standards and calibration organizations in the mid 1990's. In January 1998, Lockheed Martin Metrology Service Laboratories located in Sunnyvale, CA was approved a Commercial Calibration Laboratory and contracted to provide a complete range of calibration services. A PSL audit conducted in February 1999 however, found a "lack of a comprehensive standards and calibration program" at SNL/CA. I was designated the site's calibration program manager in October of 1999.

Today, Lockheed Martin Metrology Service Laboratories provides about 98% of the sites calibration service. The rest is provided between the Sandia NM Primary and Secondary Standards Labs. Lockheed Martin's contracted services include:

- Weekly site pickup and delivery
- Repair service
- Recall notification - via email
- OOT reporting - via email
- M&TE database management - currently at 1400 items
- In-situ calibration - balances, scales, cmms, gas sensors, etc.
- Engineering resources

Program success is highly dependent upon electronic communication. The program manager, service provider's administrative and technical staffs, and M&TE owners communicate via email and telephone. An internal web site functions as the program's command center, relaying a variety of customer information including:

- DOE/SNL policy and requirements
- Database
- Electronic forms
- Links
- News and information
- Service instructions
- Technical guidelines

The CA calibration program relies upon administrative and technical support at the corporate level in NM and most importantly, enjoys full, active support from the SNL/CA Vice President.

A PSL audit was completed in April 2001 resulting in 5 Noteworthy Achievements, 2 Areas of Concern and 9 Items for Discussion.

A Metrology Council, designed to "facilitate interaction between metrology personnel within Sandia National Laboratories", has been established. The first meeting was held in August 2001. Meetings continue quarterly. A current action item is to re-write the corporate calibration policy, CPR100.3.1.



Metrology/Accreditation Action Items (Updated 2/14/02)



	<i>DATE DUE</i>	<i>ITEM</i>	<i>RI</i>	<i>STATUS</i>
1.	02/28/02	If possible, prepare in advance written lab reports for 2002 meeting	ALL LAB REPS	
2.		Review your lab capabilities on the website Capabilities Matrix; note changes, and transmit them to Ragland for posting.	ALL LAB REPS	<i>DONE</i> Honeywell/KC noted a few changes. No response from other labs.
3.		Prepare and transmit to Ragland a brief, written report (text, viewgraphs, lists, etc) of the oral presentation ("items of interest; significant events/developments; FYI") you gave at the meeting	ALL LAB REPS: RECEIVED R. BURTON B. MCKEETHAN R. EFFLER A. GAULER I. REDA K. HARRISON D. PETTIT M. LEGEL C. TUNLEY R. MARTIN D. WILHELM	<i>DONE</i>
4.		Complete PSLM review and provide comments to PSL	ALL STDS LAB MGRS	<i>DONE</i>
5.		Check with D. Braudaway on PSLM-3B, RP-14 (3/99). Is it included in RP-14?	D. PETTIT	<i>DONE</i>
6.		Introduce DoE/AL (Perez) to Serbu/TSP	D. PETTIT	<i>DONE</i>
7.		Investigate need for subcontracting of calibration of STDs with accredited labs	D. PETTIT	<i>DONE</i> We do not have to worry about subcontracting of accredited calibrations. A calibration lab will not have a calibration listed in its Scope of Accreditation that is subcontracted. This will simplify our internal requirements. Consider this question closed.



Metrology/Accreditation Action Items (Updated 2/14/02)



	<i>DATE DUE</i>	<i>ITEM</i>	<i>RI</i>	<i>STATUS</i>
8.	09/01/01	Work with Kuster and Burton on an approach to 4:1 tolerance testing procedure	PETTIT	
9.	10/30/01	Investigate SNL web site POLICY regarding making changes to a site	D. PETTIT/D. RAGLAND	<i>DONE</i> Per Manny Ontiveros, SNL Web Info Manager: "As long as the predominant majority of the content on your web site is directly from materials previously approved for unlimited release, you don't have to go through formal review and approval (in essence, you already have)"
10.	9/15/01	Set up DoD/DoE/NASA/NIST links on the Metrol web site	D. PETTIT/D. RAGLAND	Pettit to contact Fed agencies; get web sites. Results to Ragland by 9/15/01 for posting to Acc/Met web sites.
11.	06/15/01	Compile lists of current R&D projects/future needs	D. PETTIT	Pending
12.	10/1/01	Investigate a "Hit Counter" for the web site	D. RAGLAND	<i>DONE</i>
13.	06/30/01	Post list of current R&D projects/future needs to web sites; also change POCs per Schaeffer's results	D. RAGLAND	Pending input from Pettit
14.	10/1/01	Post to Metrol & Accred web sites the Serbu (TSP) letter authorizing both Topical Committees to speak for DoE in related matters.	D. RAGLAND	Still have not heard back from Serbu
15.		Prepare an NCSL 2001 blurb for both websites	D. RAGLAND	<i>DONE</i>
16.		<i>Standards Forum</i> article re Y12 meeting	D. RAGLAND	<i>DONE</i>



Metrology/Accreditation Action Items (Updated 2/14/02)



	DATE DUE	ITEM	RI	STATUS
17.		Y12 Minutes	D. RAGLAND:	DONE
18.	05/30/01	Complete white paper on Calibration Supplier Evaluations	K. HARRISON	Paper will be presented at 2002 meeting (per Harrison on 1/31/02).
19.	06/15/01 (REPORT)	Develop new champion at DoE/HQ	K. HARRISON	Pending
20.	10/1/01	Develop a "Certificate of Completion" for PSL survey process	L. AZEVEDO	Draft to Louie Perez (DOE) by 10/1/01. <i>Larry Azevedo will take the opportunity at the next survey (LANL) in October 2001 to develop the certificate of completion.</i>
21.		Send yearly a CCL/DCS-based list of approved suppliers to CSLs.	L. AZEVEDO	DONE
22.	9/30/01	Prepare, get approved and publish white paper on Committee's recommendation to adopt 17025	L. AZEVEDO/ D. PETTIT / J. SIMONS	Work with Louie Perez to draft a position for the weapons complex. Due 9/30/01.
23.	10/1/01	Modify PSL survey for accredited CSLs	L. AZEVEDO / B. MCKEETHAN/ R. BURTON	Azevedo will update the PSL internal survey and compose a draft; to be submitted to McKeethan & Burton by 10/1/01. <i>We have implemented changes to the process to include provision for accredited CSL's. The PSL internal documentation is still in revision. McKeethan and Burton do not need to review the document since it is internal to the PSL. The changes that directly affect the accredited CSL laboratories are as follows:</i> <i>1. If a CSL is accredited, then the PSL will substantially minimize or eliminate its review of the quality program.</i> <i>2. Proficiency tests are coordinated with the CSL to support their requirements either in areas in which</i>



Metrology/Accreditation Action Items (Updated 2/14/02)



				<p><i>they are already accredited or in areas for which they are applying for accreditation. In addition, proficiency testing completed by the CSL to support accreditation will be reviewed by the PSL, in lieu of PSL supplied proficiency testing.</i></p> <p><i>3. The time saved by not reviewing the CSL's quality program can be used to review the production/design activities related to M&TE use.</i></p>
24.	TBD	Initiate changes to D&P Manual (Chapter 8.4) to include 17025; pursuant to gap analysis of 17025 vs. Z-540 by PSL mgmt.	L. PEREZ	PSL has submitted a draft change to DOE/AL. Meeting was held to discuss changes.
25.		Potential rep to ICSP (Serbu/TSP)	M. LEGEL	DONE M. Legel committed to participate on the ICSP Working Group, after discussions with R. Serbu. He subsequently submitted her name to the ICSP at a meeting on ~ 4/26/01. There has been no further information made available from any other ICSP Working Group members, if assigned yet, from any other agencies.
26.	10/1/01	Investigate organizing round robins with CSLs as pivot labs	PSL MGMT	Pettit & Azevedo to survey project leaders & identify one or two CSLs to act as pivot labs. Need to restrict RRs to one or two per year. Identity of participating labs will be hidden, except for PSL value.
27.		White paper on survey results to D. Ragland for committee approval and post to web site	R. BURTON/D. RAGLAND	DONE

Following are action items assigned during the 2002 Meeting.

	DATE DUE	ITEM	RI	STATUS
28	3/15/02	Add a pointer to the NVLAP web site that contains 17025. Add to Metrology web site. Email to members	Mary Woodruff	



Metrology/Accreditation Action Items (Updated 2/14/02)



29.	9/30/02	Locate DOE metrology champion.	Ken Harrison / Barry Sachs	Work with Jim Burkhardt. W/Gary Echert
30.	5/1/02	Get a hard copy posted on web site of the DOE authorization letter. –	D. Ragland	Get with DOE and get approval to put on web.
31..	6/30/02	White paper on implementing 17025 recommendation	R. Pettit/J. Allred	To suggest to all DOE programs to adopt 17025. Work with champion.
32.	6/1/02	Speak with Don Heirman on the accreditation issues brought up by K. Harrison's presentation. Need assurance that recognized accreditors are competent. –	K.Harrison	Done – Ken will write A2LA a letter.
33.	4/30/02	Get reports on the Chemical effects on glassware to members	Carol Brickenkamp / Larry Azevedo	Mary will post on web site
34.	5/1/02	email vugraphs on training to members	– R. Burton	R. will email to members
34.	5/1/02	Collect examples of use of uncalibrated equipment and the consequences. (War stories) Collect Examples of using calibrated equipment and the value of it. Misuse of calibrated equipment also –	Mary Woodruff	Gather for Larry Azevedo
35.	10/01/02	Share with committee members SNL developed user training when complete	Larry Azevedo	Mary will send out.
36.	4/30/02	Update website with 2002 meeting items.	Don Ragland/Mary Woodruff	
37.	4/15/02	Send Lab Reports to Don Ragland	All Members	
38.	6/1/02	Discuss/determine benefits/possibility of NACLA recognition for PSL/CSL	Larry Azevedo / Roger Burton / Gary Echert	
39.	5/1/02	Gather information of history of calibration program to give to sites to help with Management Support	Larry Azevedo	Larry will Email
40.	6/1/02	Look into sharing Survey DB with other DOE sites	Gary Echert	
41.	5/1/02	Revise D&P Manual changes to include	Larry Azevedo / R. Pettit	



Metrology/Accreditation Action Items **(Updated 2/14/02)**



		those items that require calibration to include the same items included on the CPR change as approved by the SNL Metrology Council		
42.	5/1/02	Submit draft of D&P manual to include international recognition agreements instead of just NACLA	R. Pettit	
43.	5/30/02	Investigate the need for a common definition terminology between a QAS survey and the PSL survey.	L. Azevedo /Gary Echert	
44.	5/30/02	Revise CAR database to include customer complaint database and provide to requesting labs	Mary Woodruff	
45.	5/1/02	Submit draft to D&P manual with use of 4:1 tolerance testing using language similar to that in Z540.	Larry Azevedo / R. Pettit	
46.	10/30/02	Create a document on a recommended procedure for guard banding. Add to PSLM when reviewed	Roger Burton	



Annual DOE Topical Committees on Metrology and Accreditation
March 12 – 13, 2002



Steering Committee Elections

Following is the listing of committee members elected to serve on the combined Steering Committee on 3/13/02:

<i>Member</i>	<i>Term</i>	<i>Term Expires</i>
Danny Wilhelm (Pantex)	2 yr	2004
Barry Sachs (PNNL)	2 yr	2004
Jim Allread (INEEL)	2 yr	2004
Mary Jane Hicks (SNL/NM)	2 yr	2004
Bob Pilkey (SNL/CA)	2 yr	2004

Following is the listing of committee members elected to serve on the combined (Metrology & Accreditation) Steering Committee whose term is expiring in 2003:

<i>Member</i>	<i>Term</i>	<i>Term Expires</i>
Roger Burton (Honeywell/KC)	2 yrs	2003
Jerry Harris (Y12)	2 yrs	2003
Margaret Legel (NBL)	2 yrs	2003
Dick Pettit (SNL/A)	2 yrs	2003

Next Meeting Place:

First Choice: NASA KSC

Second Choice: Sandia Livermore